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The Indo-Iranian reflexes of PIE **CRHUV*

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1. The reflexes of PIE sequences **CRHUV*¹ in Vedic can be divided into two groups of forms: those with long *ūr*, *īr* and those with short *ur*, *ir*.² Consider, for example, derivatives with zero grade of the root *tūr*-/tūr(v)- 'to cross, conquer' (< **trh₂-*) before -y- and -v- in the Ṛgveda (RV)³:

Short reflex: 1pl. opt. aor. *turyāma*, 3sg. opt. pf. *tuturyāt* and 1pl. *tuturyāma* (5.45.11d), inf. *turvāṇe*, pf. ptc. *titirvās-*, adjectives *turvāṇi-* 'victorious' and *tuturvāṇi-* (1.168.1a) 'trying to win', NPr. *Turvīti-* and *Turvā(śa)-*;

Long reflex: pres. *tūrvati*, impv. pres. *tūrya* (8.99.5d), intensive *vī tartūryante* (8.1.4a), gerund *vi-tūryā* (10.68.3c); *tūr⁽ⁱ⁾ya-* n. 'overcoming' (in *vṛtratūr⁽ⁱ⁾ya-* 'overcoming of Vṛtra', *śatrutūrya-* (6.22.10b) 'overcoming of foes', *aptūrⁱya-* 'crossing, overcoming of the waters'), *tūrvi-* (9.42.3a) adj. 'superior', NPr. *tūrvayāṇa-*.

In the literature, the long reflex is considered regular, whereas the short one is seen as analogical, being based on prevocalic forms. However, an analogical explanation is feasible only for some of the forms. For example, it is conceivable that the short *u* in *urvī-* f. 'broad' < **h₁urH-*

¹The cover symbols are: *C* = any consonant; *R* = *r*, *l*; *H* = any laryngeal, *U* = *i*, *u*; *V* = any vowel. As the honorand pointed out on several occasions (e.g. Beekes 1988a: 44f., 1988b: 59f.), we should not indicate syllabicity in the PIE reconstructions. There was no phonological distinction between vocalic and consonantal resonants and laryngeals, and we know next to nothing about their phonetic realization. When we only have our intuition to guide us, it is easy to fall a victim to wrong generalizations. Frederik Kortlandt mentioned to me an instructive example from Russian: it is almost self-evident for an Indo-Europeanist that *r* in Russian *rdet* 'rē, *rža*, *teatr* must be vocalic, but in fact it is consonantal. -- Since vocalization remained subphonemic in Indo-Iranian until the loss of laryngeals in the separate languages, I shall refrain from indicating it in the reconstructions. The vocalization rules in Sanskrit and Iranian will be discussed in § 4.6ff. -- I am grateful to Frederik Kortlandt and Michiel de Vaan for their comments on an earlier version of this paper.

²The distribution of the *īr* vs. *ūr* in Sanskrit falls outside the scope of the present article. Here I would only like to mention that *u*-color regularly appears after the labial consonants and before *u/v*. Deviations from this distribution are of analogical origin: for instance, the vocalism of the pf. ptc. *titirvāms-* is due to the perfect stem *tī-tir-* (cf. 3pl. *titiruh*), that of *tūrya* is due to the present *tūrvati*, etc. Synchronically, we have to do with two roots: *tar*-/tīr- 'to cross' and *tūr*(v)- 'to overcome', and the choice between *ur/ūr* and *ir/īr* in the derivatives is generally dependent on the meaning.

³If the word is a hapax, the passage is specified.

u-ih₂- and in *gurvī-* f. 'heavy' < **g^wrh₂-u-ih₂-* is taken from the masculine *urú-* and *gurú-*, respectively (thus Mayrhofer EWAia I: 227 on *urvī-*), although the fem. *pūrvī-* 'many, much' does show a long reflex and the distribution is unaccounted for. Similarly, nom.sg. *jujurván* may have got its short root vocalism from the oblique cases like abl.sg. *jujurúṣaḥ* (Wackernagel 1896: 26). In other instances prevocalic forms are not readily available, which makes analogy highly improbable. In order to account for short *u* in *urvārā-* f. 'corn-field, harvest field' < **h₂rh₃-uer-eh₂-*, Mayrhofer (EWAia I: 229) hesitatingly invokes the stem **urun-* < **h₂rh₃-un-*, but the OIr. gen.sg. *arbe* < **arūen-s* shows that this word had proterodynamic inflection, so that the suffix had the shape *-ūen-* in the oblique cases. It is even more difficult to find an analogical explanation for *turvāṇe*, etc., since there are no prevocalic forms of the type **t_ṛh₂-u-*.⁴ Rasmussen 1989: 79 writes: "Die Form *turva-* sieht am ehesten wie eine Kontamination von *tūrva-* und *tura-* aus und ist wohl auch so entstanden". It is unclear, however, why *turvāṇe*, which is an infinitive to the present *tūrvati*, should have taken over the short vowel of the stem *turaya-*. – The only possible conclusion is that analogy does not help in explaining the bulk of the forms with a short reflex and that we must look for another mechanism.

The aforementioned forms seem to suggest an accent rule: the long reflex is generally found when it is accented (*tūrvati*, *tūryā*, *tūr⁽ⁱ⁾ya-*, *tūrvi-*, *tūrvayāṇa-*), whereas the short reflex is unaccented (*turyāma*, *tuturyāt*, *tuturyāma*, *turvāṇe*, *titirvās-*, *turvāṇi-*, *tuturvāṇi-*, *turvīti-*, *turvāśa-*). If a verbal form is only attested without an accent in the Vedic texts, its underlying accentuation can normally be deduced from parallel formations. For instance, *tuturyāma* must have had the same accent as *tuturyāt* and thus has the regular short reflex. Similarly, the (nonce) form *tūrya* has the same structure as *jūryati*, so that its long vowel is what we expect. Only the intensive *tartūryante* does not conform to this distribution: its underlying accent is probably **tartūryānte*, as can be inferred from the intensives like *marmṛjyānte*. We shall return to this form below (§ 2.2). Instructive for the accentual distribution are also pairs like infinitives *turvāṇe* vs. *dhūrvāṇe* or *a-juryā-* 'not aging' vs. *jūrya-* 'old'. An isolated formation *urvārā-* is likewise in agreement with the rule.

In order to demonstrate this rule, I shall now present more or less complete material of the RV with some additions from the later Vedic texts.

2.1. Let us first look at the verbal formations. Next to the root $\sqrt{tṛ}/\sqrt{tūrv-}$, the same opposition of unaccented *ir/ur* and accented *īr/ūr* is found in the RV with two more verbs in *-rH-:

$\sqrt{gṛ-}$ 'to sing, welcome' (PIE **g^werH-*): opt. pf. *juguryāḥ* (1.140.13a), *juguryāt* (1.173.2b) and adj. *jugurvāṇi-* (1.142.8a) 'praising' vs. gerund *gūr⁽ⁱ⁾yā* (*abhigūrⁱyā* 2.37.3c, *apagūrⁱyā* 5.32.6d).

⁴"Dunkel ist v. *turv-* neben *tūrva-* als Seitenbildungen aus *tṛ-*" (Wackernagel 1896: 26).

√*jṛ̥-* 'to become old' (PIE **ǵerH₂-*): ptc. pf. *jujurvān*⁵, gerundive *ajuryā*⁶ 'not aging, everlasting' vs. presents *jūryati* (AV *jīryati*), *jūr̥vati*, and adjective (gerundive) *jūr̥iya-* (6.2.7c) 'old (man)' (cf. further § 3.1).

Only the long reflex is attested from the roots

√*cṛ̥-* 'to move' (PIE **k^wel(H)-*): intensive ptc. middle *ānu carcūryāmāṇa-* (10.124.9c).

√*pṛ̥-* 'to fill' (PIE **pelH₁-*): part.pr. *ā pūr̥yamāṇa-* (1.51.10d); the present is sometimes accented on the suffix (*pūryāte*) in the Brāhmaṇas.

√*pṛ̥-* 'to grant' (PIE **perH₃-*): *ūt pupūr̥yāḥ* (5.6.9c) 2sg. opt. pf. (underlying **pupūr̥yāḥ*, cf. *juguryāt*).

√*vṛ̥-* 'to choose' (PIE **uelH-*): *hotṛvūr̥⁽ⁱ⁾ya-*⁷ n. 'choice of the Hotṛ-' (*-iya-* 1.31.3c, *-ya-* 6.70.4c).

√*sṛ̥-* 'to smash' (PIE **kerH₂-*): 3sg. med. *śīryate* 'breaks (intr.)' (accented MS 3.6.10 *saṃ-śīryeta*, ŚBr. (BĀU) *śīryate*), gerund *śīrya* (Br.+).

Only the short reflex is attested from

√*bhr̥-* 'to quiver, rush' (PIE **b^herH₁-*): *bhurvāṇi-* 'turbulent, wild'.

2.2. Exceptions to the accentual distribution among verbal formations are few. The forms with the short reflex are always unaccented, so that we only have to account for the unaccented long forms. These can be subdivided into three groups:

1. Two *yā*-intensives, RV hapaxes 3pl. med. *vī tartūryante* (underlying **tartūryānte*) and *ānu carcūryāmāṇa-*. The latter form is clearly nonce, with its palatal *-c-* and unetymological *-ūr-*, coined after *tartūrya-*. It is essential that the regular and old intensive of the root *tṛ̥-* is athematic active *tartarīti* (VI¹), ptc. *tāritrat-* (I¹, IV¹), but it has the meaning 'to come through', corresponding to the present *tirāti*. It seems probable therefore that *vī tartūryante* 'to overcome each other, to catch up each other' is a recent intensive formation to *tūr̥vati*⁸ (cf. further note 2).

2. A similar explanation accounts for the hapax *ūt pupūr̥yāḥ* (5.6.9c) 'may you give', which is likely to be a nonce formation to the impv. *pūrdhī*.

3. The accentuation of the late Vedic *pūryāte* 'become full' and *saṃ-śīryeta* 'collapse' is secondary. These are original Class IV presents (with the accent on the root), which in some Vedic schools switched to the "passive" accentuation (see Kulikov, forthc. a).

⁵Grassmann's reading *jujur^uvān* in 2.4.5d (accepted by Seebold 1972: 296) is unnecessary, since the hymn abounds in decasyllabic verses.

⁶Grassmann's reading *ajur̥yām* in 6.17.13b (also accepted by van Nooten -- Holland 1994 and Seebold 1972: 222) is unnecessary because there are several decasyllabic verses in this hymn (7d, 10c, 12a, 15b).

⁷With secondary *-v-*, cf. also opt. aor. *vur̥ita*.

⁸For the recent and productive character of the *-yā*-intensives cf. Jamison 1983b: 53ff.

3.1. We can now move on to the nominal formations. Of those mentioned above, only the verbal adjectives in *-ya-* need some comments. The (compounded) gerunds and neuter abstracts contain the suffix *-io-* (Seebold 1972: 212f., 233f.), so that the gerunds *°tūryā*, *°gūr⁽ⁱ⁾yā*, abstracts *°tūr⁽ⁱ⁾ya-*, *°vūr⁽ⁱ⁾ya-*, with occasional disyllabic forms in accordance with Sievers' Law, conform to our expectations.

The same monosyllabic suffix **-io-* forms compounded gerundives (cf. Seebold 1972: 222ff.), and *ajuryā-* < **n-grH₂-io-* is thus in accordance with our accent rule. The simplex *jūrⁱya-*, however, must have contained the suffix **-iHo-* (**grH₂-iHo-*)⁹, so that its shape can hardly be phonetically regular. This form is a hapax, attested in a hymn (6.2) which is clearly composed by a creative poet since *jūrya-* is not the only hapax in the hymn.¹⁰ In view of the forms discussed in § 3.5, I believe that *jūrya-* is a secondary formation.

3.2. There are three relevant feminine formations to *u*-adjectives:

pūrvī- f. of *purū-* 'many, much' (PIE **plH₁-u-iH₂-*);

urvī- f. of *urū-* 'broad' (PIE **H₁urH-u-iH₂-*), cf. also *urviyā* adv. 'far away';

gurvī- (AVP 16.47.4) f. of *gurū-* 'heavy' (PIE **g^wrH₂-u-iH₂-*), cf. also *gurvikā-* (AVP 1.59.3).

Two feminines show the short reflex, and only *pūrvī-* has long *-ūr-*. The vocalism of *pūrvī-* is considered phonetically regular by the handbooks, whereas the vocalism of the other two forms is explained as restored after the masculine, which does not account for the distribution. It seems to me that the opposite is true, i.e. *urvī-* and *gurvī-* are regular and *pūrvī-* is secondary. As can be seen from the causative *pūrāyati* (AV+) (Leumann 1940: 225, Jamison 1983a: 149), the root form *pūr-* becomes productive in the Vedic times, probably due to *pūrṇā-* 'full, filled'. It is therefore conceivable that the productive root form *pūr-* has been introduced into **purvī-*.

3.3. An interesting case is the adjective *ātikūlva-* 'exceedingly thin-haired'¹¹. This word

⁹Seebold, ibidem.

¹⁰The interpretation of the passage is not without problems, cf.

6.2.7 *ādḥā hī vikṣ^uv īḍyo* [ā]si priyó no ātithiḥ /
raṇvāḥ purīva jūrⁱyaḥ sūnūr ná trayayāyⁱyaḥ //

"Denn nun bist du unser lieber Gast, unter den Clanen anzurufen, behaglich wie ein Greis in seiner Burg, wie ein Sohn schutzbedürftig (?)" (Geldner).

¹¹It must be stressed that the usual translation of *kūlva-* as 'bald' cannot be correct. Baldness is an absolute notion and one cannot be *ātikūlva-* 'excessively bald'. In the VS passage, *ātikūlva-* is opposed to *ātilomaśa-* 'excessively hairy', so that the translation 'excessively thin-haired' seems appropriate. Similarly, Avestan *kauruua-* cannot mean 'bald', as it is usually rendered. In Yt 8.21, the daēva Apaoša comes down in the shape of a black horse, which is *kauruua-*, *kauruuō.gaoša-*, *kauruuō.barōša-*, and *kauruuō.dūma-* 'thin-haired, with thin-haired ears, with a thin-haired mane, with a thin-haired tail'. Evidently, 'bald mane' and 'bald tail', which commonly appear in the translations, do not make any sense.

is attested only in one passage of the Vājasaneyi Saṃhitā: the Mādhyandina version (30.22) reads *āti-kulva-*, whereas the Kāṇva version (34.4.4) reads *āti-kūlva-*. Its cognates, Av. *kauruua-* 'thin-haired' and Lat. *calvus* 'bald', and the Oscan gentilicia **Kalúviciis** (gen.), **Kalaviis** (nom.) point to PIE **klH-uo-* (for Latin and Oscan words see Schrijver 1991: 294f.). The vacillating length of *átikūlva-* may be explained if we assume that the simplex originally was **kūlva-*. In the compound *āti-kulva-* we find the expected short reflex in an unaccented position, whereas in *āti-kūlva-* the long vowel of the simplex was introduced.

3.4. Isolated nominal forms show the same distribution. We find accented *ūr/īr* in

pūrva- adj. 'first' (< **prH-uo-*)¹²,
ā-sīr-vant- '(Soma) mixed with milk' (< **-krH₂-uent-*), derived from *ā-sīr-* '(milk-) mixture'.

Words with unaccented *ur/ir* are

urvārā- f. 'corn-field, harvest field' (including compounds *urvarājīt-*, *urvarāsā-*, *urvarā-pati-*) < PIE **h₂rh₃-uer-*, cf. Av. *uruuārā-* f. (mostly pl.) 'plants', Gr. ἄρουρα 'corn-field' < **h₂rh₃ur-ih₂-*, OIr. gen.sg. *arbe* 'grain, corn' < **h₂rh₃-uen-s* (Mlr. nom.sg. *arbar*).¹³

urvārī- f. (AV+) 'wife, lady of choice' < **ulH-uer-ih₂-*, if connected with the root *√vṛ-* 'to choose' (cf. Burrow 1984).

3.5. Moreover, even those *ūr/īr* and *ur/ir* before *y* and *v* which do not reflect **rH* show the same pattern of accented long vowel vs. unaccented short vowel.¹⁴ On the one hand, we find short unaccented vowel in words of probable non-Indo-European origin like *urvārukā-* (AV), *urvārū-* (RV) 'pumpkin', *urvāsī-* NPr. (cf. Kuiper 1991: 91). On the other hand, this pattern is likely to be responsible for the long vocalism of the present *dhūrvati* (including the inf. *dhūrvāṇe* 9.61.30b) 'to injure, violate'. The root is probably *aniṭ* (*√dhvṛ-*, PIE **d^huer-*), cf. *satya-dhvṛt-* 'violating the truth', *ā-dhvṛta-* (MS), etc. (Gotō 1987: 191, n. 355), whereas the vocalism of the aor. *ádhūrṣata* and of *dhūrtī-* f. 'damage' is likely to be dependent on the present *dhūrvati* (Narten 1964: 157f.). In a similar vein, the gerundive *ā-hūrīya-* (1.69.4a) must have secondary vocalism, as *√hvṛ-/hru-* 'to go crookedly, astray', PIE **g^huer-* is an *aniṭ* root (*°hvṛt-*, *°hvṛta-*, *°hvṛti-*; (*°*)*hrūt-*, *°hruta-*, *°hruti-*, with metathesis *CvṛC* > *CruC*; cf. Hoffmann 1980 = 1992: 749ff,

¹²It is clear that compounds with *pūrva°* and *pūrva°* (e.g. *yathāpūrva-*, *anupūrvām*, *ahampūrva-*; *pūrva-vác-*, *pūrva-péya-*, *pūrva-sū-*, *pūrva-yāvan-*, *pūrva-pā-*; *pūrva-citti-*, *pūrva-hūti-* etc.) are no real exceptions to the proposed accent rule. Also *pūrvīya-* adj. 'previous, first' (next to *pūrvīya-*) and *pūrvāthā* adv. 'in the old times' may have taken over the long vocalism of *pūrva-*.

¹³Klingenschmitt (1992: 125, n. 63) hesitatingly reconstructed PIE **ul^hcrāh₂-* and connected Hitt. *u^hllu-* 'Wiese'. This root etymology is presumably inspired by the phonetic problems involved in the current etymology of *urvārā-*.

¹⁴In contradistinction to the *r*-sequences, *-ul-* appears both accented and unaccented, cf. *úlba-* n. 'membrane surrounding the embryo' (if from **úlva-*) vs. *kulyā-* f. 'stream, river'.

Lubotsky 1994: 100). As the compounded gerundives contain the suffix **-io-* (see § 3.1), we may assume the following development: **-húrya-* → **-húrya-* > *-húrya-* (Sievers' Law). Also the vocalism of the present *húrchatī* (Br.) must be secondary.

The adjectives *dúrya-* adj. 'belonging to the door', m.f.pl. 'house', derived from *dúr-* 'door' (nom.pl. *dvārah*, acc. *durāh*) and *púrya-* adj. 'belonging to the fort' (from *púr-* 'fort') (10.138.4c) are only apparent exceptions: *dúrya-* shows disyllabic *-iya-* in 8 of its 10 occurrences, which clearly points to the suffix **-iHo-*, and *púrya-* must have had the same suffix too (< **pIH-iHo-*), in spite of the fact that this late hapax has a monosyllabic suffix¹⁵.

A special case is *ūrvā*¹⁶ (RV+) m. 'reservoir, dungeon'. This word seems to be derived from the *aniṭ* root *vṛ-* 'to cover' (pres. *vṛṇóti* / *ūrṇóti*, ta-ptc. *vṛtā-*, caus. *vārayate*, *vṛt-*, *vṛtrā-*), so that its vocalism has probably been taken from the present *ūrṇóti*.

4. Avestan, too, has two different reflexes of PIE **CRHUV* sequences: the "long" reflex *CauruuV* / *CairiiV* and the "short" reflex *CruuV* (I was unable to find unambiguous examples of the sequence **CRHiV*).¹⁷ In the next sections, we shall pay especial attention to the short reflex, which has not been recognized so far, in order to show that this reflex appears in an unaccented position.

4.1. The reflex of accented PIE **-CRHuV* is Plr. **CaruV-* > Av. *CauruuV*, OP *CaruvV*, which is the normal outcome of the PIE sequence **CRHC*, cf.

Av. *tauruuaiti*, *tauruuaitant-* < **trh₂ue-*, Skt. *tūrvati*;

Av. *Tauruiš*, name of a Daēva, Skt. *tūrvī-* adj. 'superior';

Av. *pauruua-* (*paouruua-*, *pouruua-*), OP *paruva-* adj. 'first' < **prH-uo-*, Skt. *pūrva-*;

Av. *kauruua-* 'thin-haired' < **kIH-uo-* (Lat. *calvus*), Skt. *āti-kūlva-* (for the position of the accent see § 3.3 above);

Av. *zauruuan-* 'old age' < **grh₂-uēn-*, although full grade in the root is also theoretically possible. We shall return to this word below (§ 4.3).

¹⁵The etymology of *írya-* 'tatkraftig' (?) (*írya-* 6.54.8, 10.106.4; *írīya-* 5.58.4, 7.13.3) is unknown (see Mayrhofer, EWAia s.v.).

¹⁶Note, incidentally, that the scansion *ūr^uvē*, given by Grassmann, Arnold 1905: 94, and van Nooten -- Holland 1994 for 9.87.8b *kūcit satīr ūrvé gā viveda*, is improbable: read rather disyllabic *gā(h)*, cf. 9.87.7d *gā gavyānn abhī sūro ná sātva* (for disyllabic *gāh* see Lubotsky 1995: 226-7, n. 15). As to 5.30.4d, where Arnold ibid. and van Nooten -- Holland assume *ūr^uvām*, read: *vidó gāvām ūrvām usríyānām*. Seebold 1972: 293 must be corrected.

¹⁷The vocalism of the quasi-hapax opt.aor. *fra-stairiāt* (V 14.4) 'to spread' can be secondary. The passage reads: *baēuuarō frastarētanam* [read so with Jp1 against **stārō* of Geldner's edition, cf. Narten 1968: 132f.] *barəsmaine frastairiāt* 'he should spread ten thousand of the spread [plants] as the sacrificial grass'. Cf. further the abl.sg. of the gerundive *frastairiia-* in the frequent Vid. expression *cuuat drājō haca barəsmən frastairiāt* 'how far from the sacrificial grass, which is to be spread'. Unexpected full grade is also attested in the opt.aor. *mairiāt* 'to remember' (V 3.33). The passive *ā-yairiia-* is also unreliable, cf. *x^uairiia-* and *bairiia-*.

Similarly, accented PIE **CRHiv* yields Plr. **CarīV* > Av. *CairīV*, cf. *aibigairiā* 'to praise', cf. Skt. *abhiḡrīyā* (§ 2.1).

4.2. Among the words with a short reflex, we must first of all mention Av. *uruuārā-* f. (mostly pl.) 'plants'. For the place of the accent cf. Skt. *urvārā-*.

4.3. Another word with a similar reflex is Av. *zruuan-* 'life-time, time(-span)'. I intend to discuss this word in a separate article [[see now Lubotsky 1998]], so that I shall only mention the main facts here.

The inflection of *zruuan-* is unique. We find the following forms: nom. *zruua* (FrO), acc. *zruuānəm*, dat. *zrūne*, gen. *zrū* (secondary *zruuānahe*), loc. *zru*, *zrūne* (?). The gen.sg. *zrū* was explained by Hoffmann (1967: 33f. = 1976: 490; 1970: 190 = 1975: 277) as coming from **zruuū* < **zruuō* < **zruuəṅh* (< **zruuānh*), parallel to LAv. *hū* (gen.sg. of *huuar-* 'sun') < **huuū* < **huuō* < **huuəṅh*, GAv. *x^vōṅg*. The uniqueness of this paradigm consists in the combination of an archaic genitive, which can only belong to the neuter paradigm¹⁸, and the masculine accusative. The accusative *zruuānəm* is of a productive type¹⁹ and is likely to be secondary. The gen.sg. *zrū* < **zruuānh* points to an original neuter with the suffix *-uer/-uen-*. This fact and the meaning 'life-time' attested in several passages vindicate the connection of *zruuan-* with Av. *zauruuan-* m. 'old age, senility' (cf. also MPers. *zarwān*, Man.Sogd. *zrw*, B.Sogd. *zrwh*, Oss.Ir. *zær*, Dig. *zær(w)æ* 'old age') and *zaurura-* adj. 'decrepit, senile' (both derived from the PIE root **ḡerh₂-* 'to become old'), which has been suggested by several scholars (e.g. Pokorny: 391).

The PIIr. paradigm of the word for '(old) age' probably was **z_rH-ur*, *z_rH-uáns*. One of the types of IE *r/n*-neuters had mobile accentuation, nom.-acc. being accented on the root and the oblique cases accented on the suffix (cf. Skt. nom.-acc. *yákṛt*, gen. *yaknás*). In Avestan, this type is attested by nom.sg. *huuarə(-cā)* 'sun' < **huuār* < PIIr. **súH-r* and the gen.sg. *x^vōṅg* < **huuānh* < PIIr. **suH-áns* (Hoffmann 1967: 34 = 1976: 490; for more details see below, § 6.1). If our word belonged to this type, the accentuation on the suffix in Av. *zrū* < **zruánh* < **zrHuáns* is what we expect.²⁰

¹⁸This genitive of the neuter (*r/n*)-stems occurs only with a few words in Avestan, viz., with *r/n*-stems: GAv. *x^vōṅg*, LAv. *hū* 'sun' (nom.sg. *huuarə(-cā)*, GAv. *rāzōṅg* 'pronouncement' (nom.sg. *rāzarō*) and with *n*-stems: GAv. *cašmōṅg* 'eye', GAv. *haxmōṅg* 'community' (nom.sg. YH *haxmā*).

¹⁹Its origin is probably due to the influence of *uruuan-* 'soul', which inflects in LAv. as follows: nom.sg. *uruua*, acc. *uruuānəm*, dat. *urunc*, gen. *urunō*. The dative *zrūne* may have had a pivoting function, since it looked as a dat.sg. of the hysterodynamic type (like *urunc*).

²⁰It seems probable that Av. *zauruuan-* 'old age' originally formed one paradigm with gen.sg. *zrū* < **zruuānh*. In other words, the nominative of the IIr. paradigm **z_rH-ur*, *z_r(H)-uáns* was replaced by **z_r(H)-ua* (analogical to words like GAv. nom. *cašma*, gen. *cašmōṅg* 'eye'). The motivation for the replacement can be sought in the loss of the laryngeal in the oblique cases.

4.4. Av. *uruuāpa-/uruiiāpa-* is yet another possible example of the "short" reflex in Avestan. This word is attested only in the Yašts as an epithet of various lakes: Yt 5.49 *varōiš caēcistahe jafrahe uruuāpahe*²¹ 'of the deep, *uruuāpa-*, lake Caēcista', Yt 10.14 *jafra varaiiō uruuāpāghō* 'the deep *uruuāpa-* lakes'. Next to *uruuāpa-*, we find *uruiiāpa-* in the same position in Yt 8.8 *zraīia vourukašaiia amauuatō huraodahe jafrahe uruiiāpahe* 'of the powerful, beautiful, deep, *uruiiāpa-* lake Vourukaša' and Yt 9.18 *varōiš caēcistahe jafrahe uruiiāpahe*²². Considering the distribution of the manuscript readings, it seems likely that *uruiiāpa-* is the original form of the compound (thus already Kellens 1974: 373, n. 2).

Of old, the compound was analysed as a form of *vouru-* 'broad' + 'water' (Bartholomae: 'des Wasser sich weit ausdehnt, mit weiter Wasserfläche', Geldner 1881: 'breitflutig', Lommel 1927: 'mit weitem Flut, mit weiten Wassern'), which is the most appealing rendering from the semantic point of view.²³ This analysis further accounts for the form *uruiiāpa-* with the feminine form of the adjective, which has crept into the compound, cf. Skt. *urvyūti-* 'of far-reaching help'.

Since, however, the first element of the compound *uruuāpa-/uruiiāpa-* was considered irreconcilable with the word for 'broad',²⁴ various alternatives have been proposed: 'aux eaux salées' (Darmesteter 1883: 179, Duchesne-Guillemin 1936: 158f.), 'with streaming or roaring waters' (Kellens 1974: 373, n. 2), 'with surging waves' (Bailey 1948: 331; Gershevitch 1959: 81, 174), '(der) brüllende Wasser hat' (Oettinger 1983: 69). All these renderings operate with epithets which do not seem suitable for a lake.

Assuming that *uruiiāpa-* contains the feminine form of the adjective 'broad', we can take *uruiiāpa-* as standing for /ruuijāpa-/ < **uruyiH*²⁵ (< **h₁urHu-ih₂*). Av. *uruii*²⁶ thus exactly corresponds to Skt. *urvī-*, showing short reflex in pretonic position.

4.5. GAv. *uruuānē* (hapax Y 31.2) is generally interpreted as an infinitive of the root *var-* 'to choose' (e.g., Darmesteter, Bartholomae, Schmidt 1958: 132, Lommel 1971, Kellens – Pirart

²¹ Mss. K12 and M12 read *uruuiiāpahe*.

²² The other mss. readings are: *uruuāp*²⁷ J10; *auruuiiāp*²⁸ L18, O3; *uruuāspahe* P13; *auruuiiāspahe* Pt1.

²³ Cf. further RV 1.8.7 *yāḥ kuṣṣīḥ somapātamaḥ samudrā iva pīnvate, urvīr āpo nā kākūdaḥ* 'Dessen Bauch, der am meisten Soma trinkt, wie das Meer anschwillt und sein Schlund wie ein breites Gewässer' (Geldner), 3.33.6d [the waters are speaking] *tāsya vayām prasavé yāma urvīḥ* 'Auf seinen Antrieb gehen wir breit dahin' (Geldner), etc. It is possible that the compound *urvāp(a)-* 'of broad waters' is attested in the Paippalāda version of the Atharva Veda. Although the passage AVP 19.33.14c-e (*urvāpascho madhūlakam tasya pātsaty emam anāsrāvam arogaṇam*) is corrupt, the following stanza seems to indicate that *urvāpascho* may indeed contain this compound (15 *yās samudrād uścaranti* [read: *uccaranti*] *devīr himavatas pari/ āpo yā vīśvasāmbhuvas tā ihā yantv oṣadhīḥ* 'May the herbs come here, who come forth from the ocean, the goddesses [coming] from the Himavant, who are the beneficial waters!').

²⁴ Cf. explicitly Darmesteter II, 379, n.60: "*uruyāpa* ... ne peut signifier «aux larges eaux», car large se dit en zend *vouru*."

²⁵ For the development of the initial **ur-* cf. Av. *uruuata-* < **urata-*, etc.

1991: 60). Insler's suggestion (1975: 37) to analyze *uruuānē* as dat.sg. of the word for 'soul' is morphologically difficult because we expect the form *urunē* attested in LAV. (cf. also GAV. acc.pl. *urunō*). Humbach (1957: 77, 1959: 25) takes *uruuānē* as an infinitive of the root *ar-* 'to move', which leads to a rather strained interpretation of the text.²⁶ In my opinion, the passage must be translated along the lines of Schmidt 1958: 132:

yezī āiš nōiṭ uruuānē aduuā aibī.dərəštā vaxīiā
aṭ vā vīspāṇg āiiōi ...

"Wenn durch diese (Worte) der bessere Weg zum Wählen nicht vor Augen liegt, dann komme ich zu euch allen..."

The interpretation of *uruuānē* as an infinitive of the root *var-* 'to choose' presupposes the development **urHuānai* > /ruḡanai/ (for the initial see the preceding section). The accentuation follows from Skt. *dāvāne*, *turvāṇe* (*dhūrvāṇe* is a secondary formation, see § 3.5). Note further that Skt. *urvārī-* 'lady of choice' (§ 3.4) may represent a related formation.

4.6. Accordingly, the Avestan evidence supports the distribution proposed for Sanskrit: accented **CRHuV* yields /CarḡV/ as expected, but **CRHuV̄* results in *CruuV* (*uruuV* in initial position). Exceptions to this distribution are few: *paoirī-* /parḡī-/ , f. of *pouru-* 'much', cf. Skt. *pūrvī-*, and various derivatives of the "root" *tauruu-* /tarḡ-/ , which, in contradistinction to Sanskrit, shows no alternations in Avestan: *tauruuan-* (*tbaēšō.tauruuan-*, *vərəθra.tauruuan-*, *vīspa.tauruuaire-*) vs. Skt. *turvāṇe*, NPr. *Tauruuaēti-* vs. Skt. *Turvīti-*.

4.7. It seems likely that **CruuV* was the Proto-Iranian reflex, although it can hardly be proved. Old Persian provides no information, while the interpretation of the Middle Iranian facts is difficult. The Middle Iranian cognates of Av. *uruuarā-* seem to reflect **rḡuarā* (Bailey 1960: 81), cf. Pahl. *urwar* 'plant(s), vegetables' [ʷlwl], Man. MPers. [ʷrwr] (MacKenzie 1971: 84),²⁷ Buddh. Sogd. *ʳwrh*, Man. Sogd. *rwr* 'medicinal plant, medicine' (Gershevitch 1954: 14, 35). Similarly, Pahl. *zurwān* [zwlw'n] 'time, the god Time, Zurvan' points to the vocalization **zḡuan-*, which is also compatible with Man. Sogd. (*ʳ*)*zrw* 'Zurvan', *zwrnyy* 'period' (Gershevitch 1954: 139). On the other hand, we find Pahl. *srūwēn* [slwbyn] 'horny' (MacKenzie 1971: 77) corresponding to Av. *srūuāēna-* and Pahl. *ruwān* [lwb'n], Man. MPers. [rw'n] (MacKenzie 1971: 73) 'soul' corresponding to Av. *uruuan-*. At first sight, it is tempting to assume that Proto-

²⁶In the second edition of his *Gāthā's* book, Humbach (1991 II: 59) explicitly states: "*uruuānē* can be traced back to **ḡvanai* (¹*ar* 'to move', ²*ar* 'accord'), **hḡvanai* (cf. Ved. *ṣṛ* 'to run, flow, glide, go'), *hruvanai* (cf. Ved. *śru* 'to flow, stream'), or *vṛvanai* (¹*var* 'to cover'), but it can hardly be derived from ²*var* 'to choose', which would most probably result in **vauruuanōi/vauruūānē*."

²⁷With regular representation of *r* by *ur* in the neighborhood of the labials, cf. MPers. *gurg* 'wolf' < **ḡrka-*, *purs-išn* 'question' < **pṛs-*, *murw* 'bird' < **mṛga-*, etc.

Iranian had **ruarā-*, **zruan-* vs. **sruaina-*, **ruyan-*, but Pahl. *xurdruš* [hwldlwš] ‘with a bloody club’ (MacKenzie 1971: 94), corresponding to Av. *xruuidruš*, clearly shows that this hypothesis is false, since we know that Av. *xruuidruš* reflects PIr. **xruuidruš*. Moreover, the sound change PIr. **Cru* > Av. *Cruu* is hardly conceivable. Therefore I believe that PIr. **Cru* regularly developed to **Cru* = **Cru* in Middle Iranian, whereas *srūwēn* and *ruwēn* are analogical (cf. Pahl. *srū* [slwb] ‘horn’, Av. obl. *urun-* / *rūn-*).

5. The Indo-Iranian reflexes of PIE **CRH* before *u* can be represented in the following table:

	Skt.	PIr.	Av.	OP
<i>*CRHuV</i>	<i>CurvV</i>	<i>*CruuV</i> >	<i>CruuV</i>	?
<i>*CRHuV</i>	<i>CūrvV</i>	<i>*CaruV</i> >	<i>CauruuV</i>	<i>CaruvV</i>

It is clear that the "short" reflexes are due to laryngeal loss in an unaccented position, but the chronology of this loss is not easy to determine. If the laryngeal loss had already occurred in PIIr., we have to assume that **CruV* subsequently yielded *CurvV* in Sanskrit. The major problem we face is that the evidence for the phonetically regular outcome of **CruV* and **CruV* in Indo-Iranian is meagre and partly conflicting. I cannot discuss the matter in detail, but the essential facts are the following.

5.1. In Vedic, there are no examples of accented *ry*, *rv*. In an unaccented position we find *Criy-*, cf. passives like *kriyāte* (< **kr-ia-*), optatives like *kriyāt*, etc.²⁸ The peculiar fact that non-passive *mriyāte* ‘dies’, *driyāte* ‘heeds’, etc. (the expected accentuation is **mṛ-ia-*, **dṛ-ia-*) have switched to the type with accentuation on the suffix is a strong indication that the phonetically regular development of **mṛ-ia-* was unacceptable for the speakers of Vedic (**mūrya-* ?), see Kulikov forthc. b.²⁹

Unaccented *rv* seems to be preserved unchanged, but it is only attested at the transparent morpheme boundaries, so that there is a distinctive possibility that *rv* is restored. Consider the forms with *rv* found in the RV: compounds (*nr̥-vāhas*, *nr̥-vāhaṇa-*, *pitṛ-vittā-*, *hotṛ-vūrya-*), derivatives with the suffix *-vant-* (*mandhātṛ-vānt-*, *nr̥-vānt-*, *pitṛ-vānt-*), perfect participles (*cakṛ-vāms-*, *jāgr-vāms-*, *dadṛ-vāms-*, *mamṛ-vāms-*, *sasṛ-vāms-*) and formations based on them

²⁸ *-ry-* in RV 10.10.9d *bibhryāt* and compounds *pitṛ-yāṇa-*, *pitṛ-yajñā-* is secondary.

²⁹ Since accented *rv* is unattested in Vedic, we may assume that this sequence, too, underwent some phonetic change. In this way we can account for the vocalism of Vedic *dūrvā* f. ‘a type of millet’. The traditional etymology connects this word with Lith. *dirvā* (2,4) ‘grain field’. The accentual paradigm of *dirvā* corresponds to the barytonesis of *dūrvā* (cf. Illič-Svityč § 27). On the other hand, the circumflex in the root of *dirvā* (acc.sg. *dirvā*) shows that there was no laryngeal in this word. As there is no way to explain the Lithuanian circumflex analogically, we may suggest that PIE **dṛueh₂-* regularly yielded Skt. *dūrvā*.

(*jāgrvi-*, *dādhri-*). The forms *bhrātr̥-vya-* (AV+; RV *abhrātr̥-vyā-*) 'brother's son, rival', *pit̥r̥-vya-* (Br.+) 'father's brother' do not provide sufficiently clear information either because *-rv-* may have been restored (cf. Av. *brātruīia-* or, with metathesis, *brātūīriia*, *tūīriia-*, Hoffmann – Forssman 1996: 52). Therefore, I believe that we should give serious consideration to an old suggestion by E. Leumann (1893: 306) that **CruV* may regularly have yielded **CruyV*. This idea is based on the etymology of Skt. *dhruvā-* 'firm, fixed', *dhruvī-* 'id.', Av. *druua-* 'healthy', OP *duruva-* 'firm, certain', which may be derived from the root **d̥r̥-* 'to keep, fix'. The reconstruction PIIr. **d̥r̥-ua-* implies the development of pretonic **CruV* to **CruyV*, which is then exactly parallel to **CriV* > **CrijV*.

In Iranian, we find two different reflexes of **CriV*, viz. **Crja-* in passives and *ja-* presents derived from roots in *-r̥*, and **Crijā-* in the perfect optative. For the former category cf. Av. */r̥ja-/* (spelled *-iriia-* in *kiriia-* 'make', *miriia-* 'die', *piriia-* 'confiscate', as *-ōiriia-* in *vōiriia-* 'envelop', and as *-rii-* in *striia-* 'slay'³⁰, cf. Kellens 1984: 125f), OP *maṛiya-*, *kaṛiya-*, etc. For the latter reflex cf. Av. *auui-baβriiān* and OP *caxriyā*. The vocalization found in the perfect optative is likely to be original³¹, especially in view of the OP form and the parallel development in Sanskrit. The reflex **Crja-* in passives may be due to restoration.

5.2. We may conclude that there is no evidence for the sound change **CruV* > Skt. *CurvV*, which means that the laryngeal loss in **CrHuV̇* cannot have occurred in Proto-Indo-Iranian times already. The facts, discussed in the previous section, rather indicate that the phonetically regular vocalization of **CRUV̇* was **Cri(j)V̇*, *Cru(u)V̇*. It seems therefore reasonable to assume that the sequences with a laryngeal after the *r̥* showed the same vocalization, i.e. PIIr. **CrHuV̇* was realized as **CrHu(u)V̇*. The further developments in Sanskrit are then quite regular: the *r̥* of **CrHu(u)V̇* was vocalized, **Cr̥Hu(u)V̇* yielding **CurHu(u)V̇*, and the subsequent loss of the laryngeal and simplification of pretonic **Cu(u)V̇* to **CūV̇* (for which see below) have led to the attested **CurvV̇*. In Iranian, the only development we have to assume is the loss of the laryngeal in **CrHu(u)V̇*. In this fashion, all facts are accounted for with a minimum of sound change involved.

6.1. A final point concerns the chronology of the development **Cu(u)V̇* / **Ci(i)V̇* > **CūV̇* / **CīV̇* in Avestan and Sanskrit.

From the different spelling of GAv. nom.sg. *huuarə(-cā)* /huʔar/ < PIIr. **sūHar* (Skt. *svār*) 'sun' and gen.sg. *xʷəng* /huʔanh/ < PIIr. **suHāns*, Hoffmann (1967: 33f. = 1976: 490) concluded that accentuation was of influence on the development of the initial cluster. In Gāthic,

³⁰With the regular absence of schwa after (homorganic) *t*, cf. Hoffmann -- Narten 1989: 73, Hoffmann -- Forssman 1996: 91.

³¹*auui-baβriiān* (Yt 8.24) must have provided the model for the secondary *jaymiiām* (Yt 8.11).

both forms are disyllabic, but **huʔanh* later became **hyanh* (written *x^vēṅg*), whereas **huʔar* remained disyllabic, cf.

IIr.	GAv.	post-GAv.	mss.
<i>*súHar</i>	/húʔar/	<i>*huṽar</i>	<i>huuarə(-cā)</i>
<i>*suHáns</i>	/huʔanh/	<i>*hyanh</i>	<i>x^vēṅg</i>

It has not been observed, as far as I know, that exactly the same mechanism accounts for the difference between Av. *-zuu-* in the gen.sg. *hizuuō* 'tongue' (similarly in other oblique cases) and *zb-* in *zbaia-* 'to call'. Whereas *-u-* was accented in the word for 'tongue' (cf. Skt. gen.sg. *juhvas* = *juhúvas*), the accent in *zbaia-* was on the suffix (Skt. *hvāya-* < PIIr. **Z^huHáia-*). For a further discussion I refer to Kuiper 1978: 9ff. and 12ff. The developments can be represented as follows:

IIr.	GAv.	post-GAv.	mss.
<i>*ZiZ^huHas</i>	/hizúʔah/	<i>*hizuṽah</i>	<i>hizuuō</i>
<i>*Z^huHáia-</i>	/zuʔaia-/	<i>*zuṽaia-</i>	<i>zbaia-</i>

6.2. In Sanskrit, **CuʔV* and **CiʔV* have been simplified to **CvV* and **CyV*, respectively, but the metrics shows that at the period of our oldest Vedic texts these sequences were still often disyllabic. Kuiper (1987) has demonstrated that the simplification went at different speed, depending on the accentuation: whereas **CúʔV* and **CíʔV* (*svār*, *kva*, *tanvāh*, *vrkyāh*, etc.) are always disyllabic in the family books of the RV and are mostly disyllabic in the younger books and in the AV, **CuʔV* and **CiʔV* are simplified very early. As an example of the latter group, Kuiper adduced the present *hvāyati* 'to call' < PIIr. **Z^huH-aia-ti*, the stem of which is scanned /h^uvaya-/ only twice in book VI (out of the total number of 47 occurrences).

Another important example of the type is the 2nd person singular pronoun: nom. *tvám* < **tuH-am* (cf. GAv. *tuuēm*, Old Pāli *tuvam*) vs. acc. *tvám* < **tṽaH-am* (cf. Av. *ṣṇam*, Old Pāli *tvam*). As Grassmann does not give all occurrences of this very common pronoun in his dictionary (only the data for the first book are provided), Kuiper was unable to analyze the metrical behaviour of these two forms. With the help of the 'R̥gvedic word concordance' (Lubotsky 1997), we can now easily make the statistics. The total number of occurrences of *tvám* is 673. Subtracting 24 occurrences, which are found in identical pādas, we arrive at 649. For *tvám* the figures are 179 - 8 = 171. The occurrences are grouped per book.³² In anticipation of the following discussion, I have distinguished between occurrences in the initial and non-initial positions (D = disyllabic; M = monosyllabic):

³²There is some uncertainty about the correct metrical analysis of a few passages, but the overall picture will not be considerably affected by it.

<i>tvām</i>	I	II	III	IV	V	VI	VII	VIII	IX	X	Total
Initial D	96	41	12	19	17	38	30	64	35	52	405 (62%)
Initial M	12	11	–	–	3	3	4	9	–	2	44 (7%)
Non-initial D	17	12	6	4	4	8	5	23	4	13	96 (15%)
Non-initial M	16	3	4	5	6	12	2	25	6	26	105 (16%)
Total	141	67	22	28	30	61	41	121	45	93	649

<i>tvām</i>	I	II	III	IV	V	VI	VII	VIII	IX	X	Total
Initial D	16	7	6	3	14	16	7	19	9	15	112 (65%)
Initial M	–	1	1	–	1	3	1	1	–	3	11 (6,5%)
Non-initial D	2	1	–	1	–	–	1	3	–	1	9 (5%)
Non-initial M	8	3	4	3	2	–	3	9	1	6	39 (23%)
Total	26	12	11	7	17	19	12	32	10	25	171

This is not the place to give an elaborate metrical analysis of *tvām*, etc. In order to get this statistics into perspective, it is necessary to compare the metrical behaviour of other forms of the 2sg. pronoun and monosyllaba of a similar structure such as *svā-*, *syā-/tyā-*, *dyauh-*, etc. Some conclusions can be drawn even on the basis of this table, however. First of all, while comparing the percentages of monosyllabic forms (*tvām* 23%³³ vs. *tvām* 29,5%), we see that the difference is much less pronounced than we would expect on the basis of etymology. The metrical contrast between *tvām* and *tvām* comes to light only when we take into consideration the position in the verse. It is obvious that in the initial position both forms are generally disyllabic³⁴, which is in accordance with Lindeman's Law. Disyllabic scansion in the verse initial position is found with other monosyllaba too (*tvāt*, *dyaús*, forms of the pronouns *svā-*, *tyā-*, etc., see already Sihler 1971: 68f.)³⁵, which means that in this respect *tvām* does not behave differently from other monosyllabic words.

In non-initial position, *tvām* is almost always monosyllabic³⁶, whereas disyllabic (96x) and monosyllabic (105x) forms of *tvām* are equally well represented. Furthermore, monosyllabic

³³Note especially the formula *#sá tvām (nah)*, which occurs 28 times. The consistent monosyllabic scansion of *tvām* in this formula corroborates Klein's thesis that *sá tvām* is a substitution for *sá tú* (Klein 1996: 24f.).

³⁴Monosyllabic forms in the initial position remain rare in the RV. The large figure in the second book (11 times *#tvām*) is due to 10 occurrences in one hymn (2.1).

³⁵There was some degree of analogical reshuffling within paradigms, which has led to the creation of forms like *s"vāsya*, *s"vāya* after *s"vāh*, *s"vé*, whereas no resolution is found in *svāyam* and in compounds with *svā*° (cf. Lindeman 1965: 71; most of the apparent exceptions can be accounted for).

³⁶There are only three exceptions in the family books: 2.17.8a (*bhojām tvām indra vayām huvema*) and 4.19.1a (*evā tvām indra vajrinn ātra*) may represent decasyllabic triṣṭubh verses, but 7.22.6b (*bhūri manīṣī havate tvām íti*) cannot be explained away in an easy fashion.

tvám is never found after the caesura and only four times in the pāda-final position, all of them late (three times in book X and once in 6.75.1c, which is an Anhang-hymn). On the other hand, disyllabic *tvám* occurs 18 times after the caesura and 31 times at the end of a pāda. This distribution is important because in these positions we often find the original scansion.

These considerations confirm Kuiper's thesis (1987: 3) that "[tu'am] is the traditional form of the hieratic poetry, whereas ['twam] represents the norm of the living speech". In other words, the development **-u(ṽ)á-* > *-vá-* had already taken place at an early stage, which is exactly the point we needed to prove. Accordingly, both Sanskrit³⁷ and Avestan have undergone a similar sound change, viz. **Cuṛá* > **Cṽá* and **Ciṛá* > **Cṽá*, but at different stages of their development.

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³⁷As Professor F.B.J. Kuiper points out to me, Old Pāli nom. *tuvaṃ* (vs. acc. *tvam*), mentioned above, seems to indicate that the development **Cuṛá* > **Cṽá* has not reached all Sanskrit dialects. Note further that *u* remained vocalic in the position after *y*, cf. *yuvām*, *yuvatī-*, etc. (the cluster **yv* is inadmissible in Sanskrit).

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